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November 9th, 2022

[Phase 1] ESW490-42 – IXYS Brand Schottky Diode Discrete Alternative Qual Status

To our valued customers,

Littelfuse would like to notify the completion of Phase 1 IXYS Brand Schottky Diode Alternative Qualification and would like to supply the latest datasheets for the 21 parts in Phase 1 group.

All 21 parts have been fully qualified in accordance with established performance and reliability criteria. The attached pages summarize the qualification results. Full qualification data and/or samples will be available upon request.

Form, fit, function changes: There will be changes on alternative parts. Pls refer to datasheets for details.
Part number changes: None
Effective date: Feb 10th, 2023
Replacement products: N/A
Last time buy: N/A

Below is the latest status for the rest of Schottky Diode Qualification groups:

	PCN Time	Qualification
Phase 1	Nov-22	Completed
Phase 2	Feb-23	Ongoing
Phase 3	May-23	Ongoing
Phase 4	Sep-23	Ongoing

If you have any questions or concerns, please contact your local sales team or Zhiwei Wang, Power Diode Discrete, Product Marketing Manager.

We value your business and look forward to assisting you whenever possible.

Thank you very much!

Zhiwei Wang

Best Regards,

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Appendix A: Qualification Report for Phase1 Schottky Diode Discrete Alternative Qual

Schottky Diode Qualification Summary								
								Supplier: Littelfuse, Inc
								Family Type: Schottky Diode
Barrier Type: SA, NiCrPt								
#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	85mil, 60V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220FP	JSED22-A-102	1	22	0 Failure
2	TC	85mil, 60V	-55-150°C,1000cycles	TO-220FP	JSED22-A-104	1	22	0 Failure
3	THS	85mil, 60V	TA=85°C,RH=85% for 1000hrs	TO-220FP	JESD22-A-110	1	22	0 Failure
4	HTS	85mil, 60V	TA=150°C for 1000Hrs	TO-220FP	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	85mil, 60V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220FP	MIL-STD-750Method 1038	1	22	0 Failure
6	IOL	121mil, 120V	$\Delta T_j \geq 100c$, 2minutes ON/2 minutes OFF, 15000cycles	TO-220FP	MIL-STD-750 Method 1037	1	22	0 Failure
7	IOL	120mil, 120V	$\Delta T_j \geq 100c$, 2minutes ON/2 minutes OFF, 15000cycles	TO-220AB	MIL-STD-750 Method 1037	1	22	0 Failure
8	IOL	71mil, 100V	$\Delta T_j \geq 100c$, 2minutes ON/2 minutes OFF, 15000cycles	TO-252	MIL-STD-750 Method 1037	1	22	0 Failure
9	IOL	145mil, 100V	$\Delta T_j \geq 100c$, 2minutes ON/2 minutes OFF, 15000cycles	TO-263	MIL-STD-750 Method 1037	1	22	0 Failure
Barrier Type: SN/SG, NiPt, SN>100V, SG<100V								
#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AC	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 150V	-55-150°C,1000cycles	TO-220AC	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-220AC	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 150V	TA=150°C for 1000Hrs	TO-220AC	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	170mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220AC	MIL-STD-750Method 1038	1	22	0 Failure
1	PCT	91mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AB	JSED22-A-102	1	22	0 Failure
2	TC	91mil, 150V	-55-150°C,1000cycles	TO-220AB	JSED22-A-104	1	22	0 Failure
3	THS	91mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-220AB	JESD22-A-110	1	22	0 Failure
4	HTS	91mil, 150V	TA=150°C for 1000Hrs	TO-220AB	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	91mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-220AB	MIL-STD-750Method 1038	1	22	0 Failure
1	PCT	71mil, 200V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-252	JSED22-A-102	1	22	0 Failure
2	TC	71mil, 200V	-55-150°C,1000cycles	TO-252	JSED22-A-104	1	22	0 Failure
3	THS	71mil, 200V	TA=85°C,RH=85% for 1000hrs	TO-252	JESD22-A-110	1	22	0 Failure
4	HTS	71mil, 200V	TA=150°C for 1000Hrs	TO-252	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	71mil, 200V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-252	MIL-STD-750Method 1038	1	22	0 Failure
1	PCT	121mil, 100V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-263	JSED22-A-102	1	22	0 Failure
2	TC	121mil, 100V	-55-150°C,1000cycles	TO-263	JSED22-A-104	1	22	0 Failure
3	THS	121mil, 100V	TA=85°C,RH=85% for 1000hrs	TO-263	JESD22-A-110	1	22	0 Failure
4	HTS	121mil, 100V	TA=150°C for 1000Hrs	TO-263	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	121mil, 100V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-263	MIL-STD-750Method 1038	1	22	0 Failure
1	IOL	121mil, 100V	$\Delta T_j \geq 100c$, 2minutes ON/4 minutes OFF, 10000cycles	TO-247AD	MIL-STD-750 Method 1037	1	22	0 Failure
Barrier Type: SC, Pt								
#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 150V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-247AD	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 150V	-55-150°C,1000cycles	TO-247AD	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 150V	TA=85°C,RH=85% for 1000hrs	TO-247AD	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 150V	TA=150°C for 1000Hrs	TO-247AD	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	170mil, 150V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	TO-247AD	MIL-STD-750Method 1038	1	22	0 Failure
1	IOL	88mil, 100V	$\Delta T_j \geq 100c$, 2minutes ON/2 minutes OFF, 15000cycles	SMC	MIL-STD-750 Method 1037	1	22	0 Failure
Barrier Type: SD/SF, Cr								
#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	170mil, 15V	15 PSIG,TA=121°C,RH=100%,96HRS	TO-220AC	JSED22-A-102	1	22	0 Failure
2	TC	170mil, 15V	-55-150°C,1000cycles	TO-220AC	JSED22-A-104	1	22	0 Failure
3	THS	170mil, 15V	TA=85°C,RH=85% for 1000hrs	TO-220AC	JESD22-A-110	1	22	0 Failure
4	HTS	170mil, 15V	TA=150°C for 1000Hrs	TO-220AC	MIL-STD-750Method 1031	1	22	0 Failure
Barrier Type: SE, NiCr								
#	Abv	Wafer Technology	Condition	PKG type	Test Ref#	# of lot	Sample Qty	Results
1	PCT	50mil, 45V	15 PSIG,TA=121°C,RH=100%,96HRS	SMAF	JSED22-A-102	1	22	0 Failure
2	TC	50mil, 45V	-55-150°C,1000cycles	SMAF	JSED22-A-104	1	22	0 Failure
3	THS	50mil, 45V	TA=85°C,RH=85% for 1000hrs	SMAF	JESD22-A-110	1	22	0 Failure
4	HTS	50mil, 45V	TA=150°C for 1000Hrs	SMAF	MIL-STD-750Method 1031	1	22	0 Failure
5	HTRB	50mil, 45V	TA=85°C FOR 1000Hrs AT VR=80% RatedVR	SMAF	MIL-STD-750Method 1038	1	22	0 Failure
Remark:								
1. Reliability Test was correlated to chip technology and package.								
2. IOL Test applicable for automotive products only.								
3. For the Cr barrier product, HTRB is not applicable due to high leakage.								

[Appendix B : Phase 1 Schottky Diode Part Number List](#)

Material	Description
DSA120C150QB	Power Diode Discrete-Schottky TO-3P (3)
DSA15IM200UC-TRL	Power Diode Discrete-Schottky TO-252D
DSA20C150PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA20C150PN	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA20C60PN	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA30C150PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA30C200PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA30I100PA	Power Diode Discrete-Schottky TO-220AC
DSA30I150PA	Power Diode Discrete-Schottky TO-220AC
DSA50C100QB	Power Diode Discrete-Schottky TO-3P (3)
DSA60C150PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSA80C100PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSB40C15PB	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSS10-0045B	Power Diode Discrete-Schottky TO-220AC
DSS10-01A	Power Diode Discrete-Schottky TO-220AC
DSS16-01A	Power Diode Discrete-Schottky TO-220AC
DSS20-0015B	Power Diode Discrete-Schottky TO-220AC
DSS6-0045AS-TRL	Power Diode Discrete-Schottky TO-252D
DSS6-015AS-TRL	Power Diode Discrete-Schottky TO-252D
DSSK20-015A	Pwr Diode Disc-SchottkyTO-220AB/TO-220FP
DSSK28-01AS-TRL	Power Diode Discrete-Schottky TO-263D2